

WHAT IS CLAIMED IS:

1. A shroud assembly for a disk drive that includes a rotatable disk, a printed circuit board, a data transfer head, an actuator assembly that positions the data transfer head with respect to the rotatable disk, and a flex cable that interconnects the actuator assembly and the printed circuit board, the flex cable having a first end connected to the actuator assembly and a second end connectable to the printed circuit board, the shroud assembly comprising:

a disk shrouding portion;

a cable mounting portion comprising a first surface and a second surface, the first surface configured to receive a transition portion of the flex cable proximate to the second end, the second surface configured to receive the second end of the flex cable and to position the second end for engagement by the printed circuit board; and

a cable shrouding portion configured to shield a spanning portion of the flex cable between the cable mounting portion and the actuator assembly from airflow generated by the rotation of the rotatable disk.

2. The shroud assembly of Claim 1, wherein the disk shrouding portion, the cable mounting portion, and the cable shrouding portion are integrally formed.

3. The shroud assembly of Claim 1, wherein the cable shrouding portion further comprises a distal end, a mounted end, a first edge proximate the cable mounting portion, a second edge opposite the first edge, a length being the distance between the distal end and the mounted end, and a width being the distance between the first edge and the second edge, the length being about two times the width.

4. The shroud assembly of Claim 1, wherein the cable shrouding portion is about as long as the disk shrouding portion.

5. The shroud assembly of Claim 1, wherein the cable shrouding portion forms an arc having an inside surface, the inside surface located on a side of the shroud assembly opposite the cable mounting portion.

1 6. The shroud assembly of Claim 1, wherein the cable shrouding portion forms
2 an arc having an inside surface, the inside surface of the arc and the cable mounting portion
3 facing generally the same direction

1 7. The shroud assembly of Claim 1, wherein the first surface of the cable
2 mounting portion is generally perpendicular to the second surface of the cable mounting
3 portion.

1 8. The shroud assembly of Claim 1, further comprising a shroud assembly
2 mounting portion that is configured to be connected to a base of the disk drive.

1 9. The shroud assembly of Claim 8, wherein the second surface of the cable
2 mounting portion comprises at least a portion of the shroud assembly mounting portion.

1 10. The shroud assembly of Claim 1, wherein the cable shrouding portion further
2 comprises a first cable shrouding portion and a second cable shrouding portion, the first cable
3 shrouding portion and the second cable shrouding portion define a space to receive the
4 spanning portion of the flex cable.

1 11. The shroud assembly of Claim 1, further comprising an arm shrouding
2 portion.

1 12. The shroud assembly of Claim 1, further comprising a flexible protrusion and
2 at least one locating feature, wherein the locating feature is configured to mate with a base of
3 the disk drive, and the flexible protrusion is configured to be deflected by a cover of the disk
4 drive to apply pressure to the shroud assembly to hold the shroud assembly in place.

1 13. A shroud assembly for a disk drive that includes a rotatable disk, a printed
2 circuit board, a data transfer head, an actuator assembly that includes an actuator arm and that
3 positions the data transfer head with respect to the rotatable disk, and a flex cable that
4 interconnects the actuator assembly and the printed circuit board, the flex cable having a first
5 end connected to the actuator assembly and a second end connectable to the printed circuit
6 board, the shroud assembly comprising:

7 a cable mounting portion comprising a first surface and a second surface, the
8 first surface configured to receive a transition portion of the flex cable proximate to

9 the second end, the second surface configured to receive the second end of the flex
10 cable and to position the second end for engagement by the printed circuit board;

11 a cable shrouding portion configured to shield a spanning portion of the flex
12 cable between the cable mounting portion and the actuator assembly from airflow
13 generated by the rotation of the rotatable disk; and

14 an arm shrouding portion connected to the cable mounting portion, the arm
15 shrouding portion configured to shield an actuator arm from airflow generated by the
16 rotation of the rotatable disk.

1 14. A shroud assembly for a disk drive that includes a rotatable disk, a printed
2 circuit board, a data transfer head, an actuator assembly that includes an actuator arm and that
3 positions the data transfer head with respect to the rotatable disk, and a flex cable that
4 interconnects the actuator assembly and the printed circuit board, the flex cable having a first
5 end connected to the actuator assembly and a second end connectable to the printed circuit
6 board, the shroud assembly comprising:

7 a cable shrouding portion configured to shield a spanning portion of the flex
8 cable between the actuator assembly and the printed circuit board from airflow
9 generated by the rotation of the rotatable disk; and

10 an arm shrouding portion integrally formed with the cable shrouding portion,
11 the arm shrouding portion configured to shield an actuator arm from airflow
12 generated by the rotation of the rotatable disk.

1 15. A shroud assembly for a disk drive that includes a rotatable disk, a printed
2 circuit board, a data transfer head, an actuator assembly that includes an actuator arm and that
3 positions the data transfer head with respect to the rotatable disk, and a flex cable that
4 interconnects the actuator assembly and the printed circuit board, the flex cable having a first
5 end connected to the actuator assembly and a second end connectable to the printed circuit
6 board, the shroud assembly comprising:

7 a cable mounting portion comprising a first surface and a second surface, the
8 first surface configured to receive a transition portion of the flex cable proximate to

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the second end, the second surface configured to receive the second end of the flex cable and to position the second end for engagement by the printed circuit board; and

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an arm shrouding portion integrally formed with the cable mounting portion, the arm shrouding portion configured to shield an actuator arm from airflow generated by the rotation of the rotatable disk.

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16. A shroud assembly for a disk drive that includes a rotatable disk, a printed circuit board, a data transfer head, an actuator assembly that positions the data transfer head with respect to the rotatable disk, and a flex cable that interconnects the actuator assembly and the printed circuit board, the flex cable having a first end connected to the actuator assembly and a second end connectable to the printed circuit board, the shroud assembly comprising:

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a cable mounting portion comprising a first surface and a second surface, the first surface configured to receive a transition portion of the flex cable proximate to the second end, the second surface configured to receive the second end of the flex cable and to position the second end for engagement by the printed circuit board; and

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a cable shrouding portion integrally formed with the cable mounting portion, the cable shrouding portion configured to shield a spanning portion of the flex cable between the cable mounting portion and the actuator assembly from airflow generated by the rotation of the rotatable disk.

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17. A head-stack assembly for a disk drive that includes a rotatable disk and a printed circuit board, the head-stack assembly comprising:

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a preamplifier;

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an actuator assembly comprising a body portion, a coil, and an arm, the body portion having a bore;

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a head-gimbal assembly attached to the actuator assembly;

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a flex cable that interconnects the actuator assembly and the printed circuit board, the flex cable having a first end connected to the actuator assembly and a second end connectable to the printed circuit board; and

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a shroud assembly comprising:

11 a disk shrouding portion;

12 a cable mounting portion comprising a first surface and a second
13 surface, the first surface configured to receive a transition portion of the flex
14 cable proximate to the second end, the second surface configured to receive
15 the second end of the flex cable and to position the second end for engagement
16 by the printed circuit board; and

17 a cable shrouding portion configured to shield a spanning portion of
18 the flex cable between the cable mounting portion and the actuator assembly
19 from airflow generated by the rotation of the rotatable disk.

1 18. The head-stack assembly of Claim 17, wherein the disk shrouding portion, the
2 cable mounting portion, and the cable shrouding portion are integrally formed.

1 19. The head-stack assembly of Claim 17, wherein the cable shrouding portion is
2 about as long as the disk shrouding portion.

1 20. The head-stack assembly of Claim 17, wherein the first surface of the cable
2 mounting portion is generally perpendicular to the second surface of the cable mounting
3 portion.

1 21. The head-stack assembly of Claim 17, wherein the shroud assembly further
2 comprises a shroud assembly mounting portion that is configured to be connected to a base of
3 the disk drive.

1 22. The head-stack assembly of Claim 17, wherein the second surface of the cable
2 mounting portion comprises at least a portion of the shroud assembly mounting portion.

1 23. The head-stack assembly of Claim 17, wherein the cable shrouding portion
2 further comprises a first cable shrouding portion and a second cable shrouding portion, the
3 first cable shrouding portion and the second cable shrouding portion define a space to receive
4 the spanning portion of the flex cable.

1 24. The head-stack assembly of Claim 23, wherein the spanning portion of the
2 flex cable is located between the first cable shrouding portion and the second cable shrouding
3 portion.

25. The head-stack assembly of Claim 23, wherein the shroud assembly further comprises a flexible protrusion and at least one locating feature, the locating feature configured to mate with a base of the disk drive, and the flexible protrusion configured to be deflected by a cover of the disk drive to apply pressure to the shroud assembly to hold the shroud assembly in place.

26. A disk drive comprising:

a base;

a printed circuit board connected to the base;

a disk that is rotatable with respect to the base;

a head-stack assembly having an actuator assembly and a flex cable that interconnects the actuator assembly and the printed circuit board, the flex cable having a first end connected to the actuator assembly and a second end connectable to the printed circuit board; and

a shroud assembly mounted on the base, the shroud comprising:

a disk shrouding portion;

a cable mounting portion comprising a first surface and a second surface, the first surface configured to receive a transition portion of the flex cable proximate to the second end, the second surface configured to receive the second end of the flex cable and to position the second end for engagement by the printed circuit board; and

a cable shrouding portion configured to shield a spanning portion of the flex cable between the cable mounting portion and the actuator assembly from airflow generated by the rotation of the rotatable disk.

27. The disk drive of Claim 26, wherein the disk shrouding portion, the cable mounting portion, and the cable shrouding portion are integrally formed.

28. The disk drive of Claim 26, wherein the cable shrouding portion is configured to shield the spanning portion of the flex cable from airflow that impinges upon a side of the flex cable that faces away from the disk.

1 29. The disk drive of Claim 26, wherein the cable shrouding portion is located so
 2 that the spanning portion of the flex cable is between the cable shrouding portion and the
 3 disk.

1 30. The disk drive of Claim 26, wherein the cable shrouding portion further
 2 comprises a first cable shrouding portion and a second cable shrouding portion, the first cable
 3 shrouding portion and the second cable shrouding portion define a space to receive the
 4 spanning portion of the flex cable.

1 31. The disk drive of Claim 30, wherein the second cable shrouding portion is
 2 configured to shield the spanning portion of the flex cable from airflow that impinges upon a
 3 side of the flex cable that faces toward the disk.

1 32. The disk drive of Claim 30, wherein the second cable shrouding portion is
 2 located between the first cable shrouding portion and the disk, and the spanning portion of
 3 the flex cable is located between the first cable shrouding portion and the second cable
 4 shrouding portion.

1 33. The disk drive of Claim 26, wherein the shroud assembly is located
 2 downstream of the actuator assembly.

1 34. The disk drive of Claim 26, wherein the shroud assembly further comprises an
 2 arm shrouding portion positioned upstream of the actuator assembly, the arm shrouding
 3 portion configured to shield the actuator arm from airflow generated by the rotation of the
 4 rotatable disk.

1 35. The disk drive of Claim 26, wherein the first surface of the cable mounting
 2 portion is generally parallel to the axis of rotation of the disk when the shroud assembly is
 3 positioned in the disk drive.

1 36. The disk drive of Claim 26, wherein the shroud assembly further comprises a
 2 flexible protrusion and at least one locating feature, the locating feature configured to mate
 3 with the base, and the flexible protrusion configured to be deflected by the cover to apply
 4 pressure to the shroud assembly to hold the shroud assembly in place.